

Comparing Fed and ECB monetary policies



EGOV
MONETARY POLICY

External author:

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Abstract

The European Central Bank and Federal Reserve have taken similar approaches to tightening monetary policy to tackle high inflation. However, relative to the US, euro area inflation has been driven more by supply shocks and less by strong demand. The euro area economy is also weakening while the US economy is still growing solidly. Markets expect the Fed to ease more than the ECB in 2024 but falling inflation and a weak euro area economy may see the opposite occur.

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LIST OF ABBREVIATIONS

| | |
|--------------|---|
| CPI | Consumer price index |
| ECB | European Central Bank |
| GDP | Gross domestic product |
| HICP | Harmonised index of consumer prices |
| IMF | International Monetary Fund |
| NFC | Nonfinancial corporation |
| TLTRO | Targeted longer-term refinancing operations |

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EXECUTIVE SUMMARY

- **The European Central Bank (ECB) and Federal Reserve (Fed) have taken similar approaches over the past 18 months to tightening monetary policy to tackle high inflation.** Since early 2022, the Fed has raised its policy rate by 5.25% and the ECB has raised its key deposit facility rate by 4.5%.
- **This similar response has occurred despite some important differences in the factors driving inflation in the two economies.** Relative to the US, euro area inflation has been driven more by supply shocks. In particular, euro area inflation in 2022 was largely fuelled by the food and energy price increases triggered by Russian invasion of Ukraine.
- **Aggregate demand has been weaker in the euro area than the US, partly reflecting differences in fiscal policies.** US fiscal policy has been highly expansionary this year, reflecting tax cuts and spending commitments in President Biden's Inflation Reduction Act and Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act.
- **The surge in food and energy prices triggered by the Russian invasion of Ukraine has been a significant "terms of trade" effect for the euro area economy.** This has raised inflation and reduced real incomes. In contrast, the US is now a net exporter of energy so this shock did not have such a negative impact.
- **Euro area inflation was 2.9% in October (according to the Eurostat flash estimate) so it is getting close the ECB's target.** "Core" inflation (excluding food and energy prices) was 4.2%. Core inflation is sometimes interpreted as the "underlying" inflation rate but this paper provides some arguments for why this is not always the case. In the presence of a large supply shock, core inflation can be a lagging rather than a leading indicator.
- **There is evidence that higher profit margins for firms have played a role in generating high inflation in the euro area over the past year.** However, the size of this effect is a lot smaller than the impact of the "terms of trade" shock. Also, focusing on the mechanical determinants of higher prices (how much of these lead to higher profits and how much pay for higher wages) can miss the underlying supply and demand factors that drive inflation.
- **The euro area economy is weakening while the US economy is still growing steadily.** According to Eurostat preliminary flash estimate, year-over-year growth in the euro area in the third quarter was basically 0%, while it was 3% in the US. The euro area economy is likely to enter recession this quarter.
- **Wage growth in the euro area is relatively high but it is still lower than inflation and there is evidence that salary growth is falling.** Further declines in inflation and a weakening labour market due to the economic slowdown also point towards slowing wage inflation.
- **Markets expect the Fed to ease more than the ECB in 2024 but a weak euro area economy and falling inflation may see the opposite occur.**

1. INTRODUCTION

The surge in inflation around the world since the easing of the pandemic in 2021 has seen all major central banks implement monetary tightening with the aim of bringing inflation back to moderate levels. While the timings of their policy decisions have been somewhat different, the overall patterns of tightening introduced by the Fed and the ECB has been similar. Starting in March 2022, the Fed raised the mid-range of its target for the federal funds rate from 0.13% to its current value of 5.38%. The ECB raised its deposit facility rate from minus 0.5% to 0% in July 2022 and has since raised it further to its current level of 4%.

In this paper, we will look at the factors that have driven these decisions and discuss the prognosis for future policy rates for both the Fed and the ECB. The principal theme of the paper is that despite some similarities in the path of inflation and in the policy response across the two cases, there are some important differences in the forces driving inflation and in the current situation faced by the two central banks.

While both the US and the euro area experienced negative supply shocks, the supply shocks due to the Russian invasion of Ukraine have had a larger impact in raising inflation via higher food and energy prices in the euro area than in the US. In contrast, as we will discuss below, highly aggressive fiscal policy in the US has contributed to a much stronger path for aggregate demand in the US than in the euro area. The US economy continues to expand at a steady rate, with third quarter real GDP up 2.9% from a year earlier while the euro area economy in the third quarter was only 0.1% larger than a year earlier and the most recent quarter showed a small contraction of 0.1%.

The ECB's October Survey of Monetary Analysts showed its sample of experts predicting that the ECB will not cut interest rates until the third quarter of next year and that the deposit facility rate will be 3.25% at the end of 2024, an easing of 75 basis points. The Fed's September Survey of Market Participants showed an expectation that the Fed will start cutting policy rates in the first quarter of next year and that its mid-range target policy rate will be 3.88% at the end of next year, an easing of 150 basis points.¹

I argue in this paper that the likely errors in these scenarios lie with anticipating too much easing from the Fed and too little easing from the ECB. With the US economy still growing at a steady pace, the Fed may not see inflation cooling as much as it is currently hoping for and further rate rises may be required. In contrast, falling inflation and a weakening economy may push the ECB to cut policy rates relatively soon.

The paper is structured as follows. Section 2 presents evidence on how inflation has behaved in the US and the euro area since 2020, discussing the role of supply and demand factors. Section 3 provides a discussion of the contribution of wage inflation and firms' operating surpluses to inflation and repeats some evidence from a recent paper by Haskel (2023) on the impact of these factors as well as terms of trade effects on inflation in the euro area. Section 4 concludes with an assessment of the recent policy approach of the ECB and a discussion of the prospects for policy over the next year.

¹ The Fed survey is available at <https://www.newyorkfed.org/medialibrary/media/markets/survey/2023/sep-2023-smp-results.pdf>. The ECB survey is available at https://www.ecb.europa.eu/stats/ecb_surveys/sma/shared/pdf/ecb.smar231030_october.en.pdf

2. ECONOMIC DEVELOPMENTS IN THE US AND THE EURO AREA

This section discusses economic developments in the US and euro area economies. We will first discuss the recent behaviour of inflation and then describe the economic conditions likely to influence its future path.

2.1. Inflation

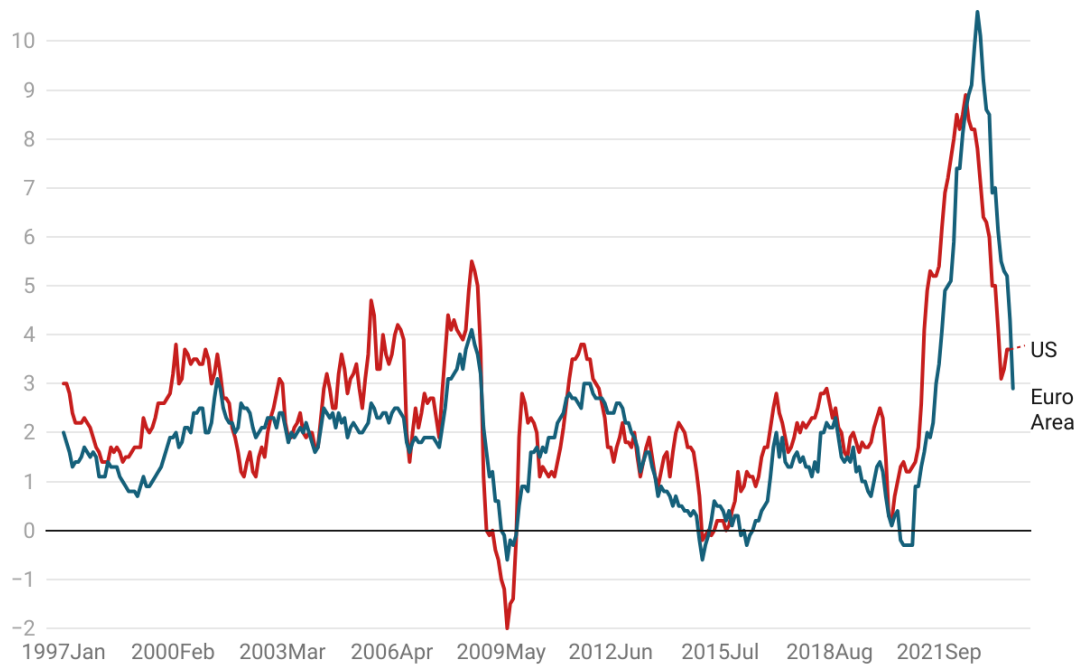
Figure 1 shows headline consumer price inflation for the US and the euro area. The chart shows some clear similarities in the recent behaviour of inflation: In both cases, inflation slumped to close to or below zero during the initial phases of the COVID-19 pandemic, then began to increase during 2021, reaching peaks close to 10% in 2022 before easing more recently. These common elements hide some important differences in the underlying driving forces.

Inflation started to rise during 2021 as successful vaccine rollouts and rising immunity began to reduce the impact of the pandemic on the economy. Energy prices, which had slumped during early stages of the COVID-19 pandemic, began to rise and with demand for services still weakened by sporadic lockdowns, goods prices began to increase globally (see Figure 2). The US saw a faster increase in inflation than the euro area, due in part to a less-focused approach to government supports which saw a much larger fiscal stimulus to the economy than in Europe, including three different rounds of stimulus cheques sent to households. Figure 3 shows the International Monetary Fund (IMF)'s estimates of the structural budget balance in the areas. The IMF estimate the structural budget deficit in the US increased by 5.4% of GDP between 2019 and 2021 while the change in this measure for the euro area was 3% of GDP.

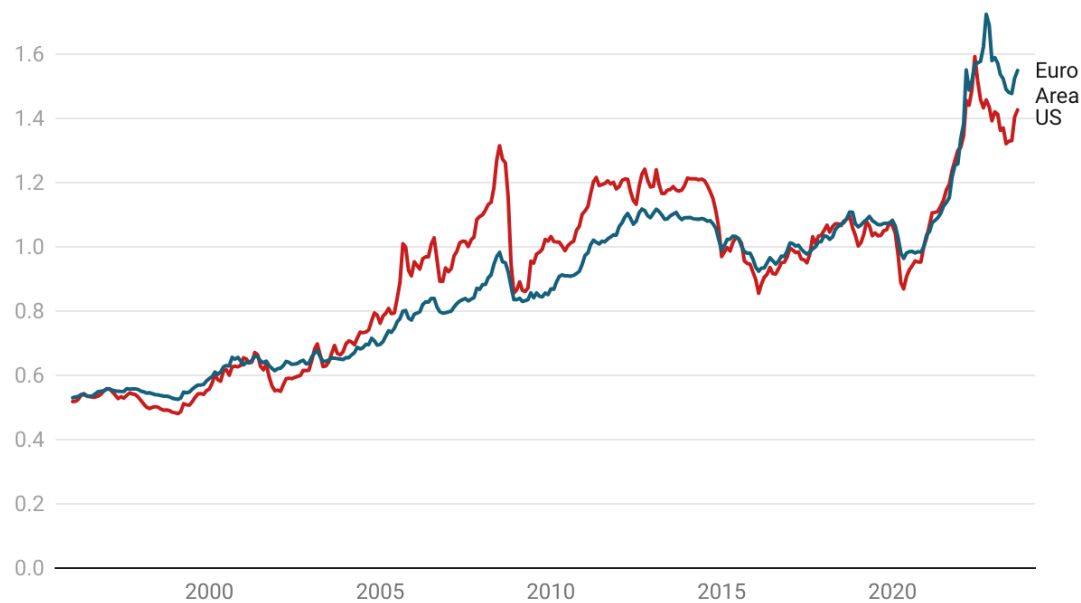
In January 2022, a month prior to the Russian invasion of Ukraine, "headline" inflation for the euro area's Harmonised Index of Consumer Prices (HICP) was 5.1% but "core" inflation (excluding food and energy prices) was only 2.3%. So at that point, inflation in the euro area was largely above target because of global issues. In contrast, in January 2022, headline CPI inflation in the US was 7.6% and core CPI inflation was 6.1%, so US inflation problems clearly went beyond the global supply and demand factors influencing energy and food prices.

The Russian invasion of Ukraine then had a much greater effect on inflation in the euro area than in the US. Headline euro area inflation jumped to 7.4% in March 2022 and moved up to a peak of 10.6% in October 2022, going higher than the peak rate in the US. The key drivers were higher food and energy prices. Figure 3 shows that prior to the Russian invasion, energy prices in the US and euro area had increased by similar amounts but after the invasion, they spiked much higher in Europe than in the US. This was primarily driven by higher prices for natural gas: Figure 4 shows that natural gas prices in the euro area peaked at about 120% higher than their December 2022 level, compared with a 60% peak increase in the US.

Furthermore, Figure 5 shows that food price inflation also spiked higher in Europe after the Russian invasion of Ukraine, jumping from 3.5% in January 2022 to a peak of 15.5% in March 2023. The effects of the war-related supply shocks are now easing and headline inflation in the euro area in October was 2.9% compared with 3.7% for the most recently available reading for the US CPI inflation rate from September 2023.

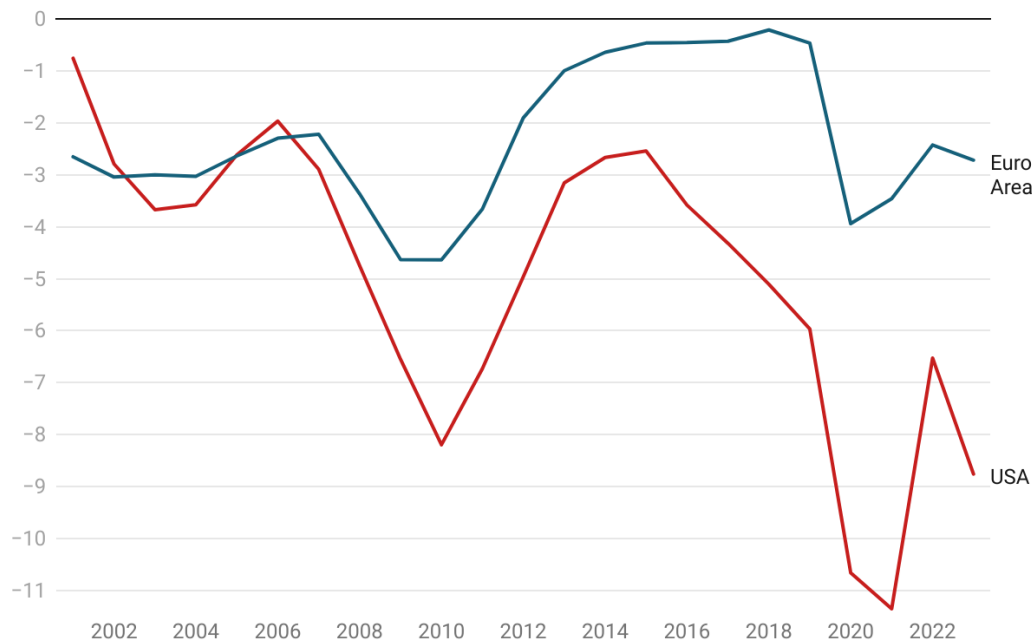
Figure 1: Year-over-year price inflation for the US CPI (red) and euro area HICP (blue), in %

Source: Author's calculations based on data from ECB Data Portal and the Federal Reserve Bank of St. Louis's FRED database.

Figure 2: Consumer energy prices (indexed to equal 1 in December 2020) in the US (red) and euro area (blue)

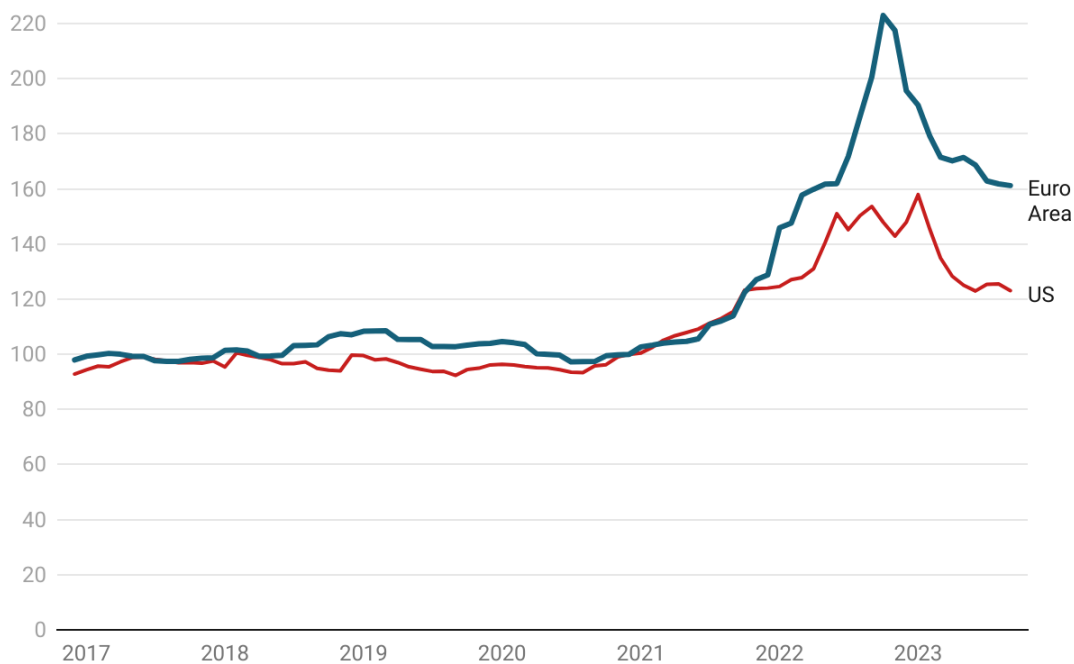
Source: Author's calculations based on data from ECB Data Portal and the Federal Reserve Bank of St. Louis's FRED database.

Figure 3: IMF estimates of structural budget balance as a share of GDP in the US (red) and euro area (blue)



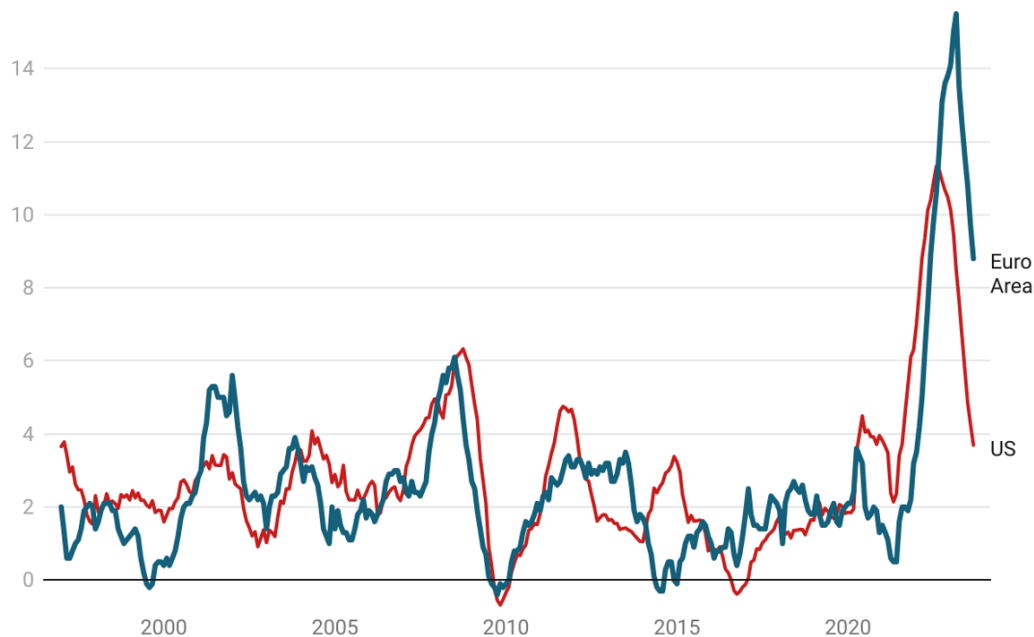
Source: Author's calculations based on data from the IMF World Economic Outlook Database.

Figure 4: Natural gas prices for consumers (indexed to equal 100 in December 2020) in the US (red) and euro area (blue)



Source: Author's calculations based on data from ECB Data Portal and the Federal Reserve Bank of St. Louis's FRED database.

Figure 5: Year-over-year food price inflation for consumers in the US (red) and euro area (blue), in %



Source: Author's calculations based on data from ECB Data Portal and the Federal Reserve Bank of St. Louis's FRED database.

As illustrated in Figure 1, inflation in both the US and euro area appears to have peaked, so central banks are now focusing on how long it will take it to return to target. In these debates, discussion often focuses on so-called "core" measure of inflation. This measure excludes food and energy prices because they tend to be more volatile than other prices. One has to be careful in interpreting core inflation, for a few reasons.

First, central banks with a responsibility for price stability such as the ECB are not charged with keeping prices stable apart from food and energy. The price stability that matters for the public is for the full basket of goods and services. So by this measure, the ECB is already very close to its price stability goal, since headline inflation had fallen to 2.9% in October. Core inflation being well above the ECB's target, on its own, is irrelevant.

Second, removing food and energy prices does not give us a measure of inflation that is immune from the influence of supply shocks. Energy is a key input for every sector and the Ukraine-related jump in gas prices contributed to higher prices for services and manufactured goods in Europe. Food also plays a prominent role in household budgets and thus high food price inflation places upwards pressure on wages, which in turn influence other prices. These factors seem to be the most likely explanation for why core inflation in the euro area increased after the Russian invasion of Ukraine, rising from 2.3% in January 2022 to a high of 5.7% in March of this year (see Figure 6). Core inflation is now easing in both the US and the euro area. Much of this likely reflects the indirect effect of falling energy prices and falling food price inflation, though in the euro area it may also reflect the impact of a slowing economy.

Third, core inflation is sometimes considered to be a more useful measure of "underlying" inflation.² In other words, core inflation is sometimes considered a better measure of what inflation is going to be

² ECB officials often refer to measures of HICP inflation excluding various items as measures of "underlying inflation". For example, see slide 4 of this presentation by the ECB Executive Board member Philip Lane. <https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp231108~37a8ac4e2b.en.pdf>

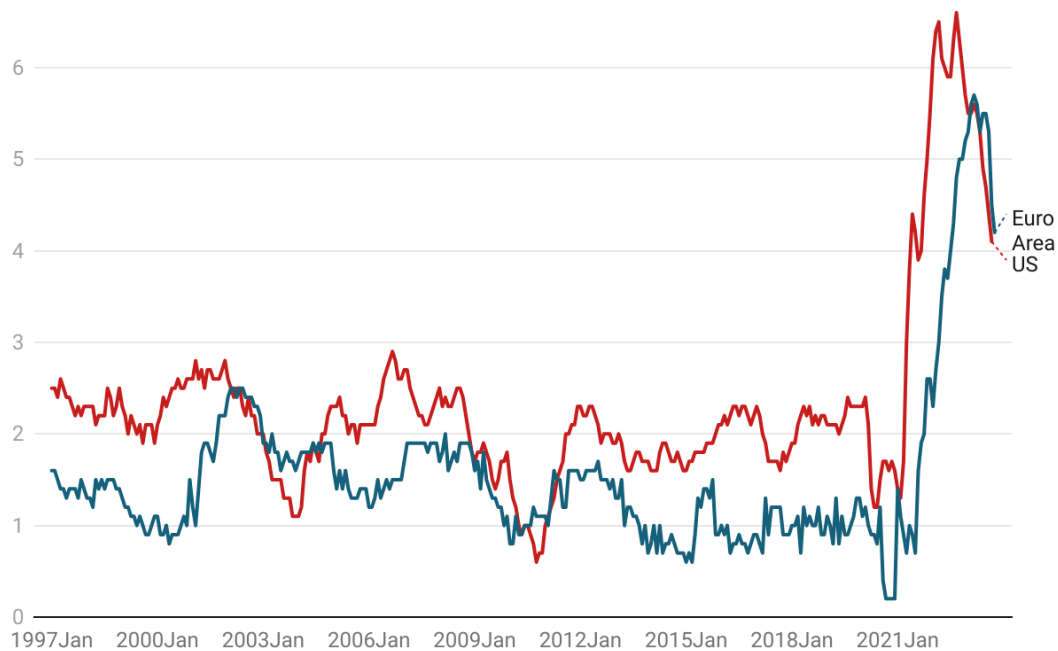
over the next year or two. At times, core inflation measures can perform this function reasonably well. For example, Figure 1 shows that at various times after the global financial crisis, euro area HICP inflation rose above the ECB's 2% target but Figure 6 shows that core inflation never did. Each of the times inflation rose above 2%, it was because of temporary jumps in food and energy prices which were subsequently reversed. Does this mean that October's core inflation reading of 4.2% is a better indicator of what inflation is likely to be over the next year? Not necessarily.

Despite the example just given, there is little statistical basis for the idea that core inflation is necessarily the best predictor of future inflation. For example, Table 1 below reports ordinary least squares regression using data on HICP inflation since the introduction of the euro. The regression uses both HICP inflation from 12 months earlier and core HICP inflation to predict current inflation. The table shows that past headline inflation has been a statistically significant predictor of current inflation but that core HICP inflation has not. Note also, however, that the fit of this linear regression is poor, with an R-squared of 0.19. This means that the model does not do a particularly good job of fitting the data, meaning inflation in the euro area has not been easy to predict on the basis of its own past values.

Also, when there is a large supply shock such as the Ukraine-related shock, it is likely that core inflation represents a lagging indicator of inflation rather than a leading one. In both the US and the euro area, core inflation measures rose slower than headline inflation and peaked later as "second-round" effects of supply shocks on other prices took time to feed through. See Figures 7 and 8. In the euro area, headline inflation peaked at 10.6% in October 2022 while core inflation peaked at 5.7% five months later. It is likely that the fall in energy prices from their peak levels will take time to feed through into lower core inflation. The latest readings for core inflation being higher than headline inflation isn't necessarily a sign that headline inflation is going to rise. It may just be a sign that core inflation is going to fall further in the coming months.³

³ The different possible arguments that can be used in relation to headline and core inflation can sometimes lead to people adjusting the arguments they use in order to justify their preferred monetary policy stance. For example, after an inflation-raising supply shock, you may see inflation "hawks" moving from first emphasising that headline inflation is the target rate that central banks need to focus on but then switching later to emphasising that core inflation is measuring "underlying" inflation when the supply shock has been reversed and headline inflation is lower than core. Similarly inflation "doves" may make the opposite switch.

Figure 6: Year-over-year core consumer price inflation (excluding food and energy) for the US CPI (red) and euro area HICP (blue), in %



Source: Author's calculations based on data from ECB Data Portal and the Federal Reserve Bank of St. Louis's FRED database.

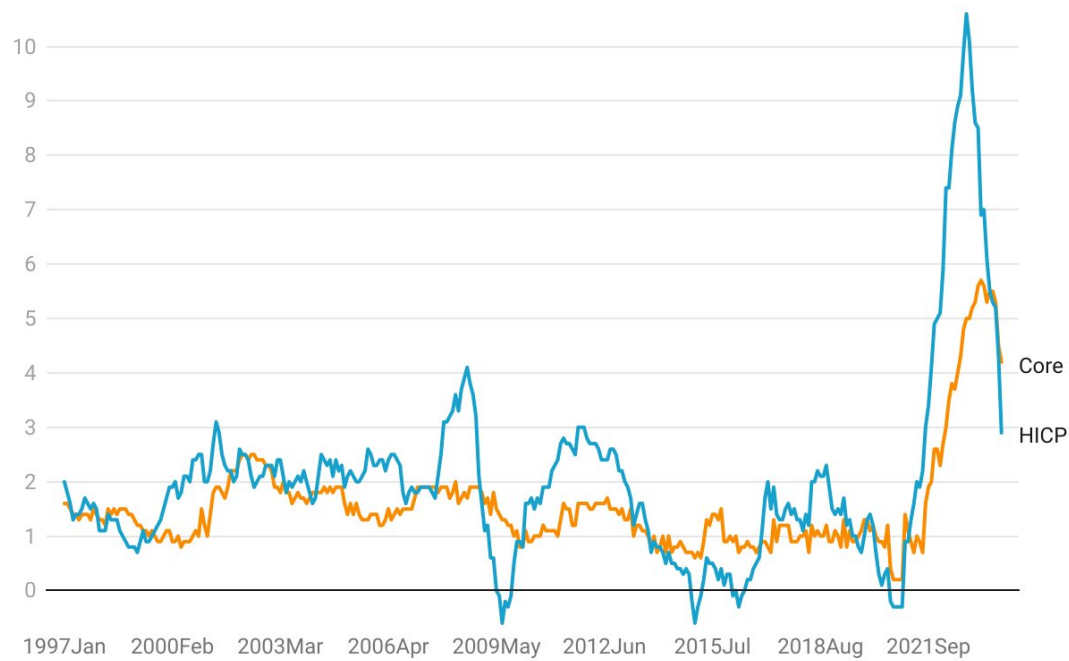
Table 1: Coefficients from a regression of HICP inflation on HICP inflation from 12 months earlier and core inflation from 12 months earlier

| Explanatory variables | Coefficients |
|---|--------------|
| Constant | 1.37 (0.26) |
| HICP inflation (12 months earlier) | 0.62 (0.12) |
| Core HICP inflation (12 months earlier) | -0.29 (0.27) |
| R-squared | 0.19 |

Source: Author's own calculation based on Eurostat data.

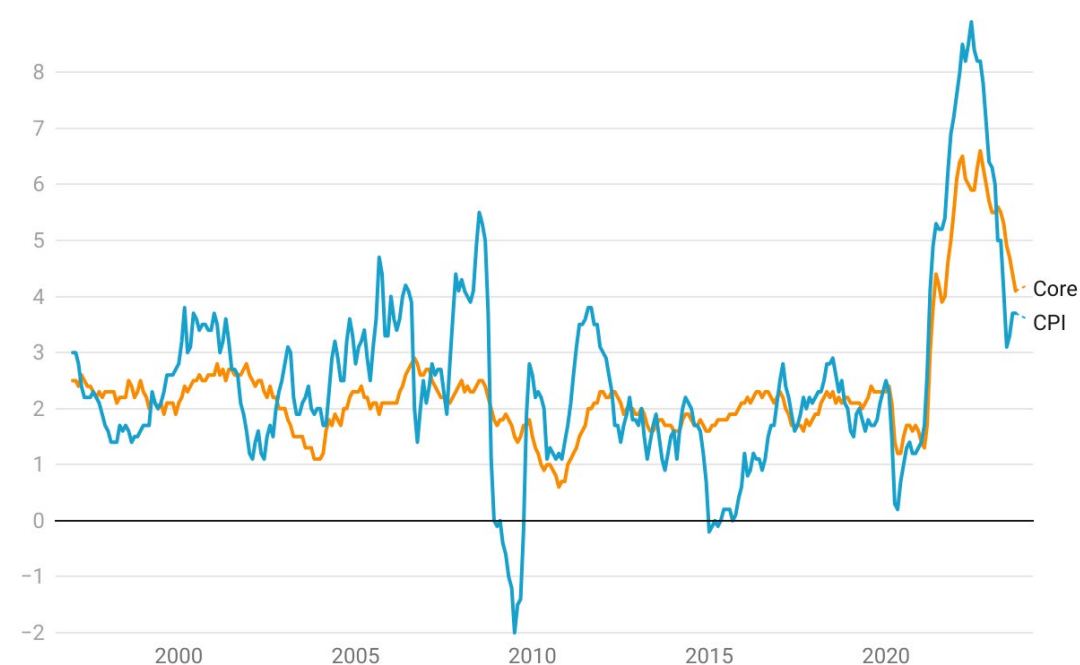
Note: Sample is January 2000 to October 2023. Standard errors in brackets.

Figure 7: Year-over-year euro area HICP inflation (blue) and year-over-year core HICP inflation (excluding food and energy) (orange), in %



Source: Author's calculations based on data from ECB Data Portal.

Figure 8: Year-over-year US CPI inflation (blue) and year-over-year core CPI inflation (excluding food and energy) (orange)



Source: Author's calculations based on data from the Federal Reserve Bank of St. Louis's FRED database.

2.2. Other economic indicators

Forecasting the economy is hard and inflation has historically been particularly difficult to forecast. Some of the most important factors influencing the future path of inflation are innately unpredictable. For example, a serious conflict in the Middle East could produce an even larger supply shock than the ones just experienced. But, absent such a shock, the key influence on inflation over the next few years is likely to be the state of the economy. Here again, there are some clear differences between the US and the euro area.

The euro area economy has proved more resilient over the past year than I had anticipated. In the September 2022 briefing paper, I wrote that the euro area was likely to enter recession in 2023 under the pressure of higher energy prices and monetary tightening.⁴ This didn't happen as quickly as I thought it would but the latest data show the euro area economy has flattened out over the past year and now seems likely to enter recession this quarter.⁵ (See Figure 9). Readings for leading indicators that tend to forecast GDP, such as purchasing managers indices, are consistent with economic contraction. Indeed, as Figure 9 shows, each of the previous times the euro area economy's growth has decelerated to zero, the result has been recessions lasting at least a few quarters.

In contrast, the US economy has continued to surprise people by performing well despite a substantial monetary tightening from the Fed. The most recent data show real GDP in the third quarter up 3% relative to a year earlier and the monthly payroll reports continue to show increases in employment. There are some areas of weakness such as construction sector and the delayed effects of the Fed's interest rate increases may well tip the US economy into recession in the coming months but, as of now, there is a definite risk that the strong economy results in US inflation remaining higher for longer than the Fed is currently now anticipating, triggering further policy rate increases.

The contrast in economic performance between the US and the euro area likely has a number of sources. First, US fiscal policy has been highly expansive in 2023. As shown in Figure 2, the IMF's estimate of the US structural budget balance increased from a deficit of 6.5% of GDP in 2022 to 8.8% of GDP this year, implying an additional 2.3% of fiscal stimulus. This unusually procyclical fiscal policy stems from the spending commitments in President Biden's Inflation Reduction Act and CHIPS and Science Act, both of which were passed in August 2022.⁶ The Inflation Reduction Act has provided substantial tax breaks to the private sector to encourage investment in green energy technologies and the CHIPS and Science Act is providing subsidies for investments in the semiconductor sector. This has led to a boom in construction of manufacturing plants, which was up 60 % year on year in September.⁷ In contrast, the IMF estimates the structural budget deficit for the euro area is effectively unchanged this year at 2.7% of GDP, so European fiscal policy is not offsetting the contractionary impacts of fiscal policy.

Second, the euro area is a net importer of energy while the US has become a net exporter of energy in recent years. While US households have been hurt by higher energy prices, these higher prices are benefiting firms and workers in the energy sector. In the language of economists, Europe has had a large "terms of trade" shock because of an increase in the price of its imports relative to its exports.

⁴ Whelan (2022).

⁵ I should perhaps have factored in the legendary economist Rudi Dornbusch's warning that "In economics, things take longer to happen than you think they will, and then they happen faster than you thought they could."

⁶ <https://www.thetaxadviser.com/issues/2023/jun/what-the-inflation-reduction-and-chips-acts-could-mean-for-us-importers.html>

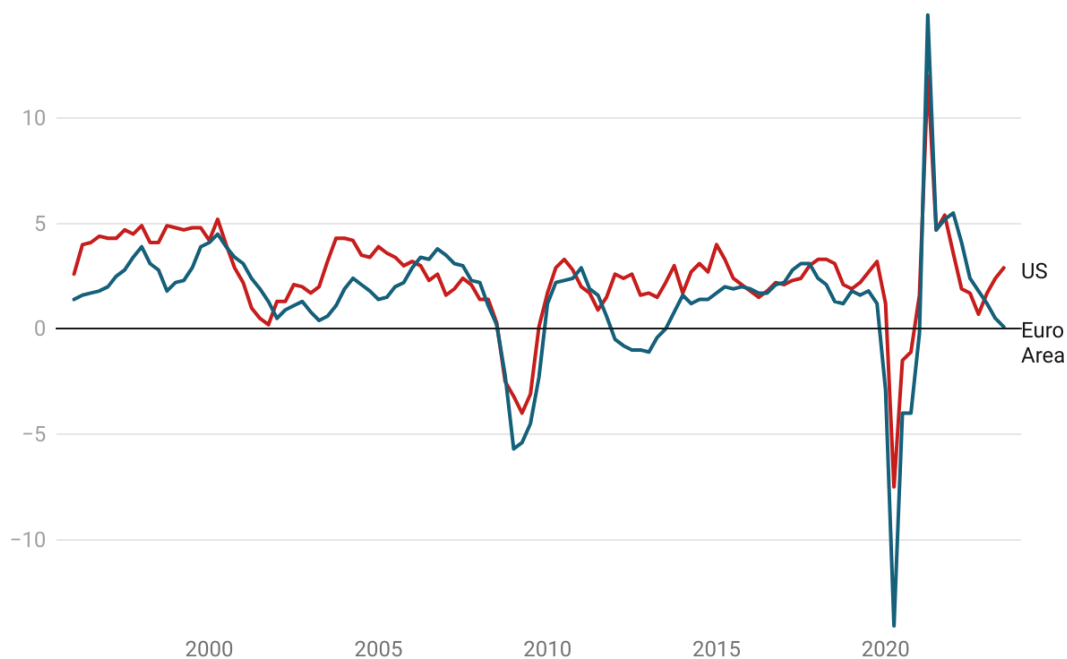
⁷ Data on this is available from the St. Louis Fed at <https://fred.stlouisfed.org/series/TLMFGCONS>

These kinds of shocks make people on average worse off, while the net impact on US real GDP of the higher energy prices has been essentially neutral.

One common pattern having a negative influence on economic growth in both the US and Europe is that monetary tightening is having its expected negative impact on the supply of credit. Figures 10 and 11 show year-over-year growth in total loans to households and to non-financial corporations for both the euro area (Figure 10) and the US (Figure 11). Both countries show a sharp deceleration in the supply of credit and the (slightly more recent) latest data for the euro area suggest we are likely to see year-on-year declines in the credit supply to both firms and households over the next year, just as was seen previously during the global financial crisis and the euro crisis.

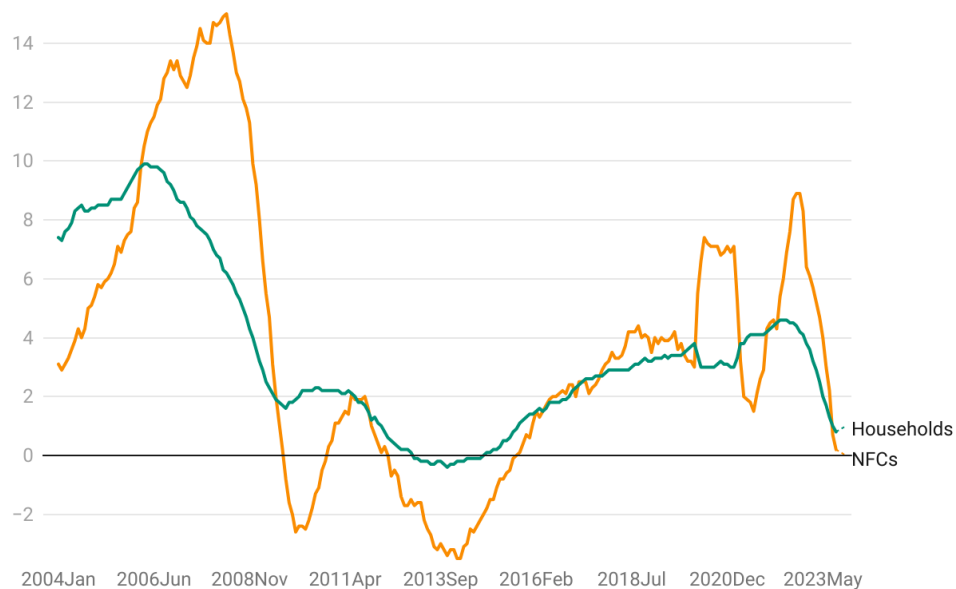
With much of the impact of the ECB's tighter policy still to be felt, the data suggest the state of the euro economy is likely to be a drag on inflation over the coming year.

Figure 9: Year-over-year GDP growth in the US (red) and euro area (blue), in %



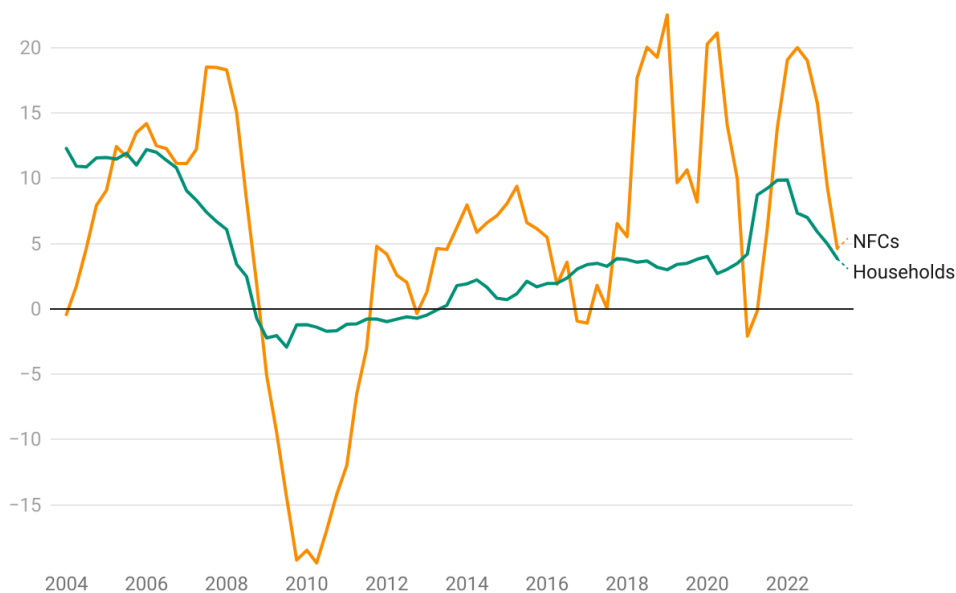
Source: Author's calculations based on data from ECB Data Portal and the Federal Reserve Bank of St. Louis's FRED database.

Figure 10: Euro area monthly data on year-over-year growth in total loans to households and to nonfinancial corporations (NFCs), in %



Source: Author's calculations based on data from the ECB Data Portal. Last observation is September 2023.

Figure 11: US quarterly year-over-year growth in total loans to households and to nonfinancial corporations (NFCs), in %



Source: Author's calculations based on data from the Federal Reserve Board's Financial Accounts (Z1 release). Last observation is 2023:Q2.

3. PROFITS AND WAGES

The fundamental causes of high global inflation have been some negative supply shocks and strong aggregate demand due to stimulus from macroeconomic policies. However, commentary on recent inflation has often focused, not on the fundamental causes, but on the *mechanics* of how inflation. In other words, people focus on the higher profits and/or wages that emerge from higher prices and then view these as the problem.

For example, a lot of commentary has focused on the idea of “greedflation”, i.e. that higher inflation represents a surge in profits from corporations taking advantage of economic conditions to raise their profit margins. “Greedflation” is not a particularly useful term. Corporations have always sought to maximise their profits and it seems unlikely that there has been a sudden surge in the “greediness” of corporate CEOs. However, as discussed in a widely-publicised paper by Weber and Wasner (2023), profits of US non-financial corporations as a share of their value added have reached a multi-decade high during this period of high inflation.

As noted, focusing on wages and profits might be not particularly useful way to understand what is driving high inflation. However, while these explanations of inflation may be “mechanical”, it is still worth documenting the mechanics.

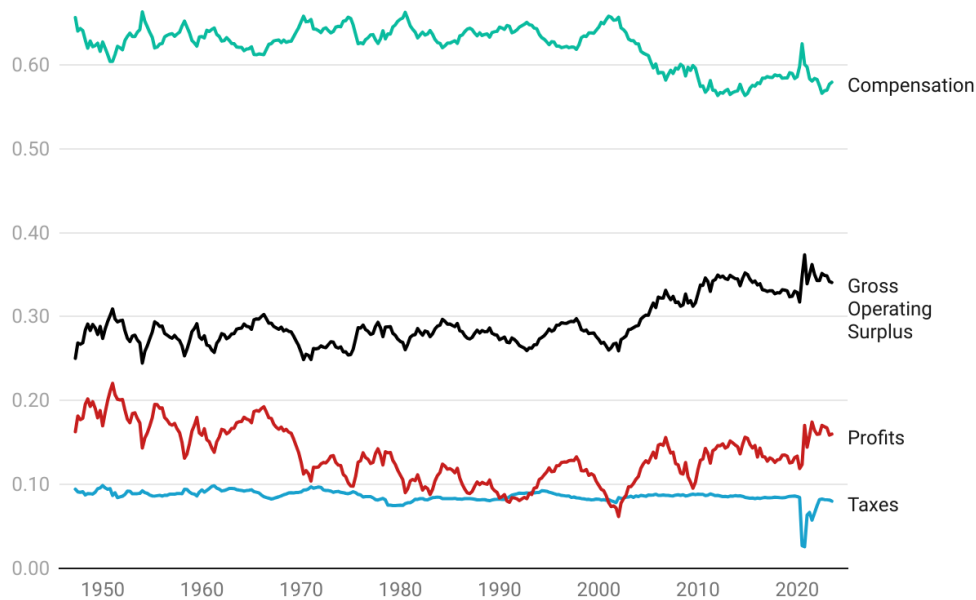
Figure 12 presents information on the shares of income generated by US non-financial corporations. The data are expressed as fractions of total gross value added generated by the corporations. The green line shows the fraction of value added that was spent on compensation for employees. The blue line shows the fraction of value added that went to the government in the form of production taxes and the black line shows the remaining amount, labelled “gross operating surplus.” The red line is corporate profits – this deducts depreciation and interest costs from gross operating surplus.

Figure 12 shows that there has been a spike in the profit share of gross value added since the start of the COVID-19 pandemic. At first, this was triggered by a cut in production taxes but this higher level has been sustained since then even as production tax rates returned to normal. If this increase was fully due to higher prices that translated into higher revenues, then we would expect a similar-sized increase in the income share of gross operating surplus but this share has increased by about half as much relative to pre-pandemic levels. This suggests that as well as higher prices, other factors such interest and depreciation costs have contributed to the multi-decade high for corporate profits as a share of value added.

As of the most recent data, the shares of both gross operating surplus and employee compensation are both relatively close in the most recent US data to their pre-COVID-19 levels. The compensation share is relatively low by historical standards and the operating surplus share is relatively high but, as Figure 12 shows, this reflects a pattern that emerged during the early 2000s and which prevailed during a period of low inflation.

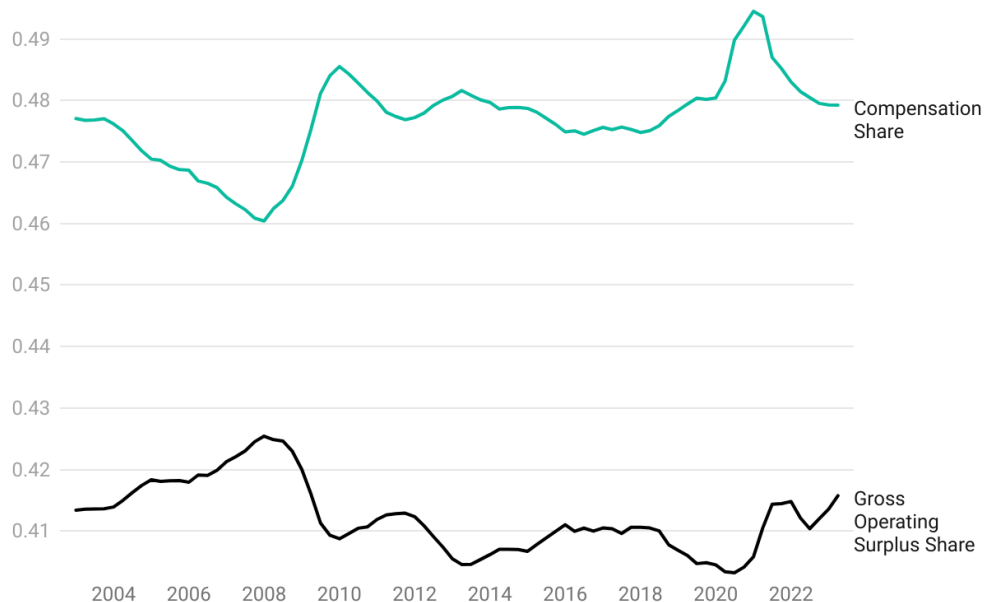
Figure 13 shows corresponding data for gross operating surplus and compensation shares for the total euro area economy. The latest data, from 2023:Q2, show the compensation share of gross value added (which spiked upwards in 2020) has returned to pre-pandemic levels while the gross operating surplus share is a bit higher than prior to the pandemic. This suggests that, at least in a mechanical sense, higher profit margins have had an impact on euro area inflation.

Figure 12: Quarterly data for shares of income generated by US nonfinancial corporations expressed as a share of the sector's gross value added



Source: Author's calculations based on data Table 1.14 of the National Income and Product Accounts published by the US Department of Commerce Bureau of Economic Analysis.

Figure 13: Quarterly data for shares of income generated by US non-financial corporations expressed as a share of the sector's gross value added



Source: Author's calculations based on data from the ECB's sectoral accounts obtained from the ECB Data Portal.

In a paper released earlier this year, Jonathan Haskel (2023) presented a useful way to summarise the mechanical forces contributing to inflation. Haskel notes that nominal GDP is the product of real GDP and the so-called GDP deflator price index. Nominal GDP can also be described as the sum of a number of different components showing where the income earned by the sector ended up.

For example, nominal GDP can be written as:

$$\text{Nominal GDP} = \text{Compensation} + \text{Operating Surplus} + \text{Production Taxes} \quad (1)$$

which means that all income earned is either paid to workers, or to the government in production taxes with the rest left to firms.

Haskel (2023) notes that if we divided all elements of this equation by real GDP, we end up with an identity explaining the GDP deflator. Taking percentage changes of both sides of this identity gives us a mechanical decomposition of the sources of changes in this measure of the price level. However, there is little reason to be interested in changes in the GDP deflator because it only measures the cost of good produced within an area. What the public care about is the cost of the full basket of consumer products, including imported goods. Haskel (2023) extends his decomposition to consumer prices, including the impact of terms of trade effects as well as some other items. He then presented his analysis decomposing inflation in 2022 for the US, the United Kingdom (UK) and the euro area. I have repeated a table from his paper as Table 2 below.

Table 2: Haskel's decomposition of 2022 consumer price inflation in the US, UK and euro area

| Table B: Decomposition of consumer price inflation, 2022 Q4 and 2022 | | | | | | |
|--|----------------|------|-----------|--------------|------|-----------|
| Percent and percentage points ^(a) | | | | | | |
| Component | Quarter 4 2022 | | | 2022 average | | |
| | UK | US | Euro area | UK | US | Euro area |
| Consumer price inflation (%) | 10.8 | 5.7 | 10.0 | 9.0 | 6.3 | 8.4 |
| Nominal labour costs | 3.1 | 2.7 | 2.1 | 1.9 | 2.8 | 1.6 |
| Nominal capital costs | 4.2 | 1.1 | 3.6 | 2.6 | 2.0 | 2.8 |
| TFP | 0.6 | 1.1 | 0.1 | -1.2 | 0.7 | -0.8 |
| Unit taxes | 1.1 | 0.2 | 0.2 | 1.2 | 0.3 | 0.5 |
| Unit subsidies | -1.4 | 0.7 | -0.3 | 1.7 | 1.6 | 0.5 |
| Terms of trade | 0.6 | -0.2 | 2.5 | 1.9 | -0.3 | 3.8 |
| Other | 2.5 | 0.0 | 1.7 | 1.0 | -0.8 | 0.0 |

Sources: BEA, BLS, EU KLEMS, Eurostat, OECD, ONS, author's calculations.

(a) Nominal capital costs includes corporate consumption of fixed capital, corporate net operating surplus, mixed income, non-market consumption of fixed capital, and imputed rental on dwellings. At least for the UK, and to an unknown extent for the US and euro area, it also includes the quarterly alignment adjustment.

Source: Haskel (2023).

This table shows that labour costs contributed 1.6% to euro area annual inflation of 8.4% last year and that capital costs (as measured by gross operating surplus) contributed 2.8%. Since total capital costs are smaller than total labour costs (though not by much in the euro area), we would expect their contribution to this decomposition in normal times to be lower than the contribution of labour costs. This confirms that higher gross profit margins for firms has been an element of recent euro area

inflation, though Haskel notes that government energy subsidies likely played an important role in shielding firm profits in 2022.

The single most important item, however, directly accounting for almost half of euro area inflation has been the terms of trade effect due to higher food and energy costs. When we consider the likely impact of higher food and energy prices on wage costs, it seems likely that food and energy costs have accounted for most of the surge in inflation over the last year.

Of course, while some people worry about excessive profits, ECB officials are always concerned that wages could rise by more than they expect, triggering a wage-price spiral. Figure 14 reports measures of average hourly compensation for the US and the euro area. The figure shows that hourly wages in the euro area have grown at a slower rate than inflation but the recent readings are perhaps uncomfortably high. This will be an indicator the ECB will pay close attention to but it seems likely that with headline inflation receding, wage inflation will also decline.

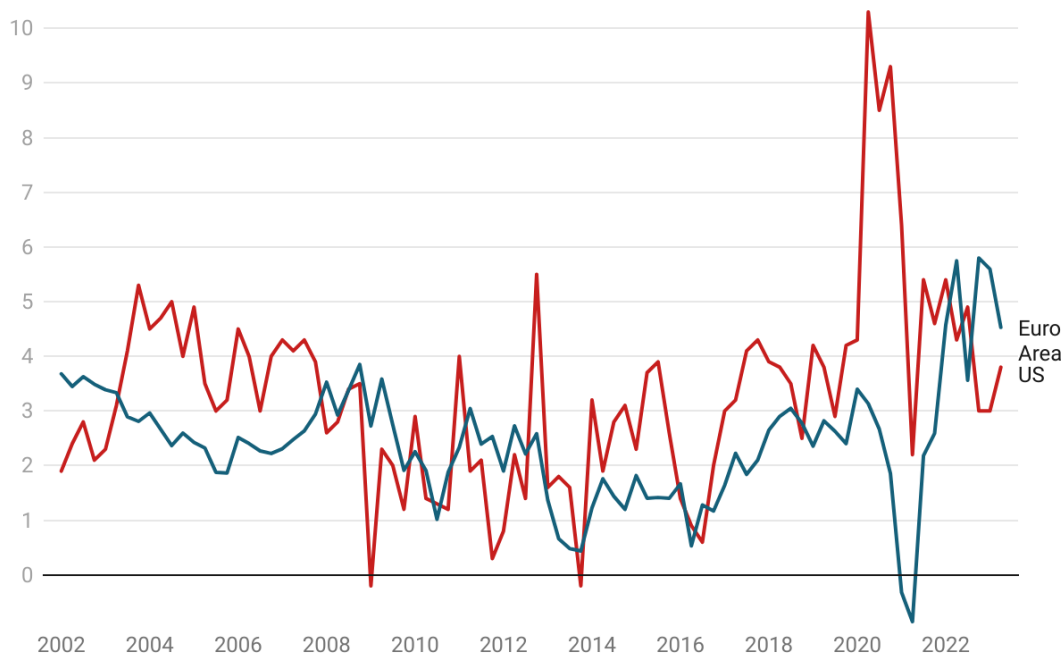
More reassuring is recent data from *Indeed*, a company that posts jobs on its website. Indeed publish a “wage tracker” for the euro area and also for several individual countries including the US. They calculate an average annual rate of change based on the salaries posted on their website, controlling for change in the composition of jobs posted.⁸ Figure 15 shows data from this measure for the US and the euro area show that annualised salary increases in the euro area have been below the US since 2020 and appear to have peaked in late 2022.

Another re-assuring sign is that measures of near-term inflation expectations are declining. Figure 16 shows average inflation expectations for one year ahead, for two years ahead and for the longer-term from the ECB’s Survey of Professional Forecasters.⁹ The one-year and two-year forecasts are both converging towards the ECB’s 2% inflation target while the long-term expectation has remained very close to 2%. The ECB will hope these restrained expectations about inflation will be reflected in upcoming wage deals, thus heading off a wage-price spiral.

⁸ The methodology underlying these data is described in Adrjan and Lydon (2022).

⁹ https://www.ecb.europa.eu/stats/ecb_surveys/survey_of_professional_forecasters/html/table_hist_hicp.en.html

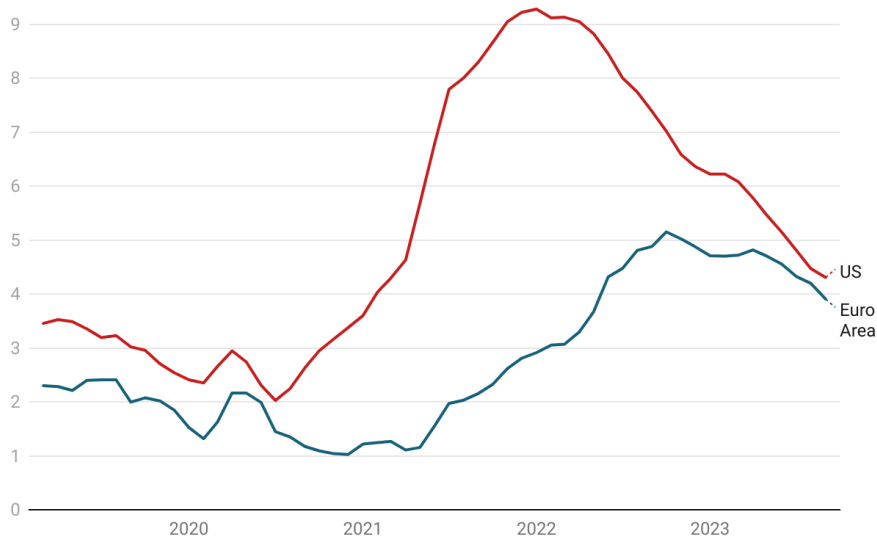
Figure 14: Annual growth rate of hourly wages in the US and the euro area, in %



Source: Eurostat and US Bureau of Labor Statistics.

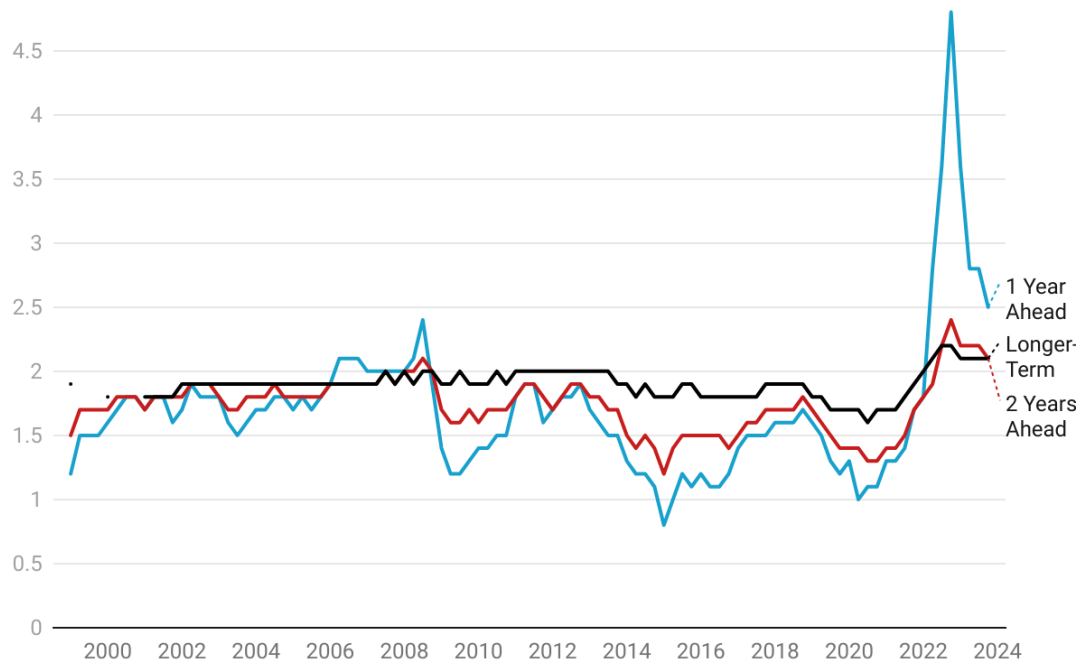
Notes: For the US, data is the annual percent change in nonfarm hourly compensation for all workers. For the euro area, data is the annual percent change in Eurostat's labour cost index.

Figure 15: Indeed wage tracker, measure of annual percentage salary increases (3-month average) for the US and euro area



Source: Indeed. <https://github.com/hiring-lab/indeed-wage-tracker>.

Figure 16: Average inflation expectations from the ECB's Survey of Professional Forecasters, in %



Source: ECB.

4. OUTLOOK FOR POLICY

As noted already, the monetary policies of the Fed and the ECB have been relatively similar over the past year and a half. Figure 17 shows that while the total increase in policy interest rates has been slightly higher for the Fed than for the ECB (recalling that the ECB deposit rate began at minus 50 basis points), the pattern of the increases have been relatively similar.

Beyond interest rates, Figure 18 shows that the ECB has reduced its balance sheet far more than the Fed which may mean the total impact of its monetary tightening on the economy may be closer to the Fed's actions than the interest rate chart suggests. That said, the Eurosystem's balance sheet reduction has been due to banks repaying their various TLTRO loans, partly because the ECB reneged on its policy of allowing banks to make "free money" from getting negative interest rate loans once this policy no longer suited its goals. TLTROs were designed to influence the economy by increasing the supply of credit to firms and households.¹⁰ However, in an environment of tightening credit conditions due to higher interest rates, it is not clear that reduced TLTRO borrowing from banks is having an important additional effect on the supply of credit.

I have argued here that, despite the apparent similarities in the behaviour of inflation and in the response of central banks, the factors underlying high inflation in the euro area have been substantively different to those in the United States. Supply shocks have been more important in driving euro area inflation and excessive aggregate demand has played a smaller role. The classic New Keynesian recommendation is for central banks to raise interest rates more than one-for-one in response to changes in inflation driven by aggregate demand but it is less clear that temporary aggregate supply shocks require such an aggressive response.¹¹

Do these difference mean the ECB has tightened policy by too much? On balance I think the answer is No.

The ECB had little choice other than to implement a substantial rise in policy rates. Failure to respond seriously to the first big spike in inflation since the introduction of the euro would have damaged the ECB's credibility. The containment of inflation expectations that I have just documented has likely been dependent on the strong message the ECB has sent with its policy response. In addition, a decision to not raise interest rates in line with the Fed's actions would have triggered a large depreciation of the euro against the dollar, which would have further worsened the already serious problem with import price inflation.

Where I think the difference in circumstances between the US and the euro area is more likely to matter is in what happens from here onwards. As noted above and displayed in Figure 17, the Fed's Survey of Market Participants in September showed an expectation that it would start cutting policy rates in the first quarter of next year and that it would ease rates by 150 basis points by the end of next year.¹² By contrast, the ECB's October Survey of Monetary Analysts showed its sample of experts predicting that

¹⁰ For example, in a 2019 speech, ECB executive board member Philip Lane discussed the impact of TLTROs as follows "The upshot of cheaper bank funding is higher credit volumes and lower lending rates to the wider economy via the bank lending channel" <https://www.ecb.europa.eu/press/key/date/2019/html/ecb.sp190701~0c1fa3c8fc.en.html>.

¹¹ In a paper presented at the ECB's Forum on Central Banking in Sintra in June, Bandera et al (2023) discuss the various ways that supply shocks may produce a different response from central banks than supply shocks.

¹² <https://www.newyorkfed.org/medialibrary/media/markets/survey/2023/sep-2023-smp-results.pdf>

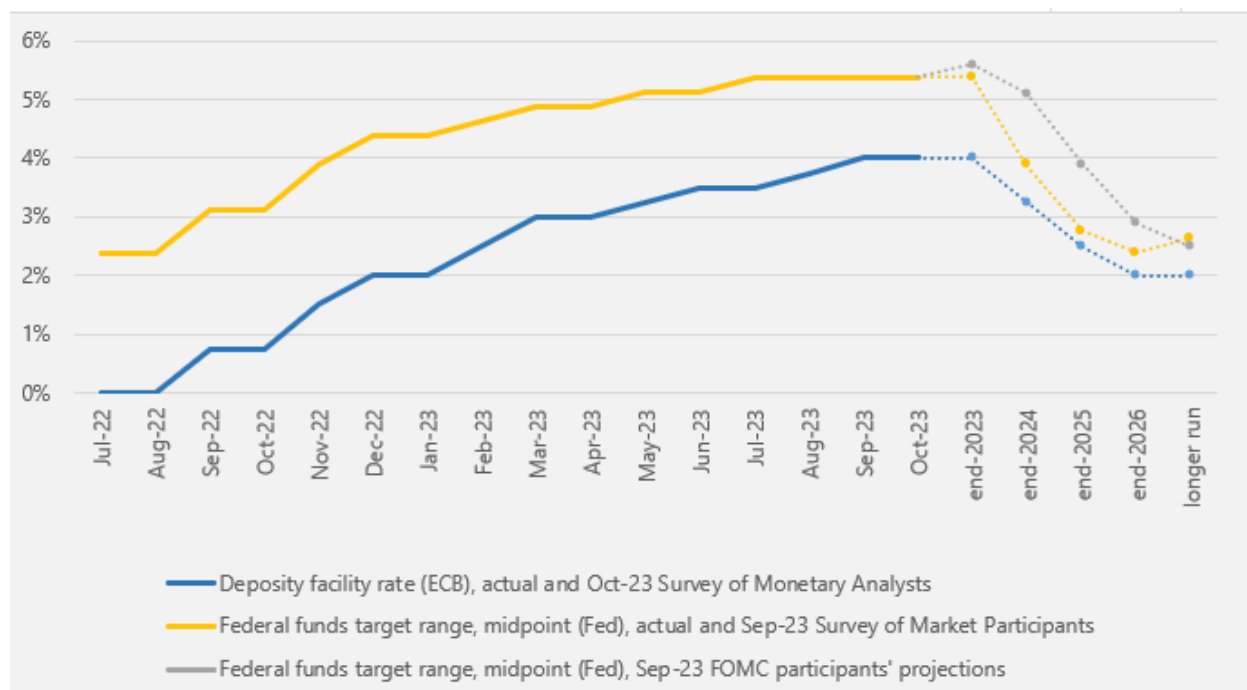
the ECB will not cut interest rates until the third quarter of next year and that the deposit facility rate will be 3.25% at the end of 2024, an easing of 75 basis points.¹³

I suspect the opposite pattern is more likely. The current strength of the US economy may make taming inflation more difficult than anticipated. For the euro area, the HICP for energy has moved up on average in recent months, so energy price declines will probably stop subtracting from headline inflation soon. There is also the risk that further supply shocks could trigger another surge in euro area inflation. However, the current situation is that inflation is now relatively close to the ECB's 2% target.

It may be that getting inflation from September's 2.9% to the 2% target rate will represent a difficult "last mile" as described in ECB Executive Board member Isabel Schnabel's recent speech.¹⁴ However, our models for forecasting inflation are not generally good enough to allow us to make precise predictions about how long it will take for inflation to fall by 0.9 percentage points. The last mile might be slow or it might be fast.

What we can say now with some confidence is that the euro area economy appears to be heading for recession and the full effects of monetary tightening have not yet been felt. This is likely to impact inflation. Instead of euro area inflation remaining sluggishly high, there is a chance that it falls back to and below the 2% target over the coming months. It now seems likely the ECB's next policy move will be to cut interest rates and it may come sooner than many expect.

Figure 17: Key policy rates for the Federal Reserve and ECB

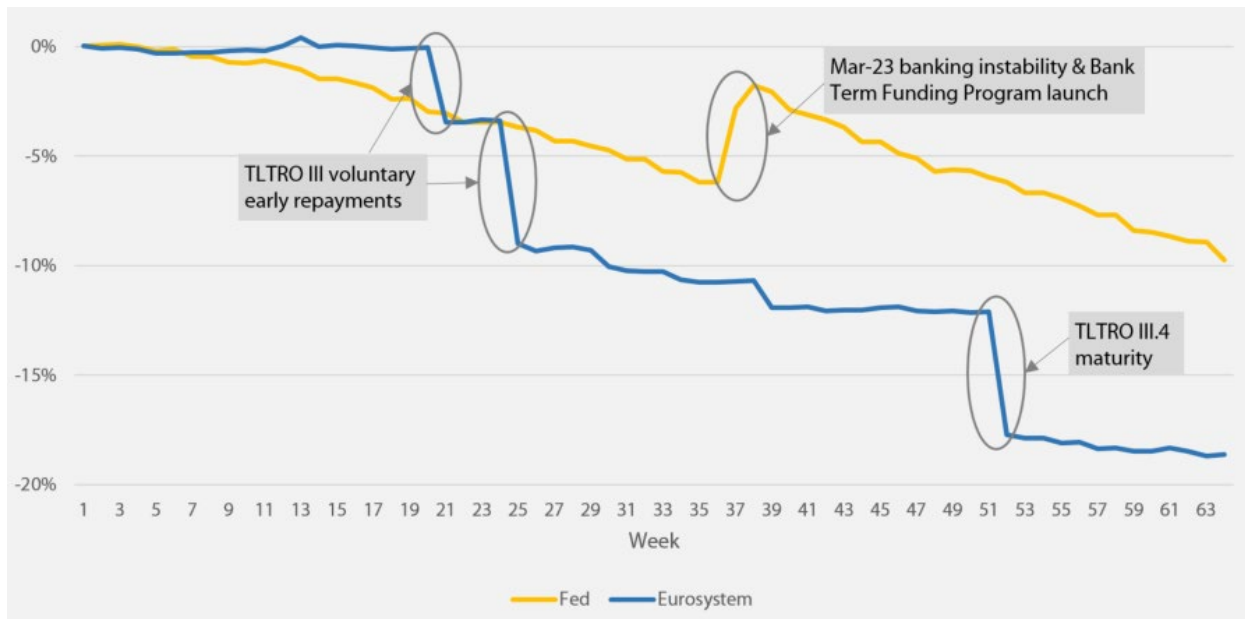


Source: European Parliament, EGOV elaboration based on data from ECB and Federal Reserve.

¹³ https://www.ecb.europa.eu/stats/ecb_surveys/sma/shared/pdf/ecb.smar231030_october.en.pdf.

¹⁴ Schnabel (2023).

Figure 18: Balance sheet reduction for the Federal Reserve and ECB



Source: European Parliament, EGOV elaboration based on data from ECB and Federal Reserve.

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The European Central Bank and Federal Reserve have taken similar approaches to tightening monetary policy to tackle high inflation. However, relative to the US, euro area inflation has been driven more by supply shocks and less by strong demand. The euro area economy is also weakening while the US economy is still growing solidly. Markets expect the Fed to ease more than the ECB in 2024 but falling inflation and a weak euro area economy may see the opposite occur.

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